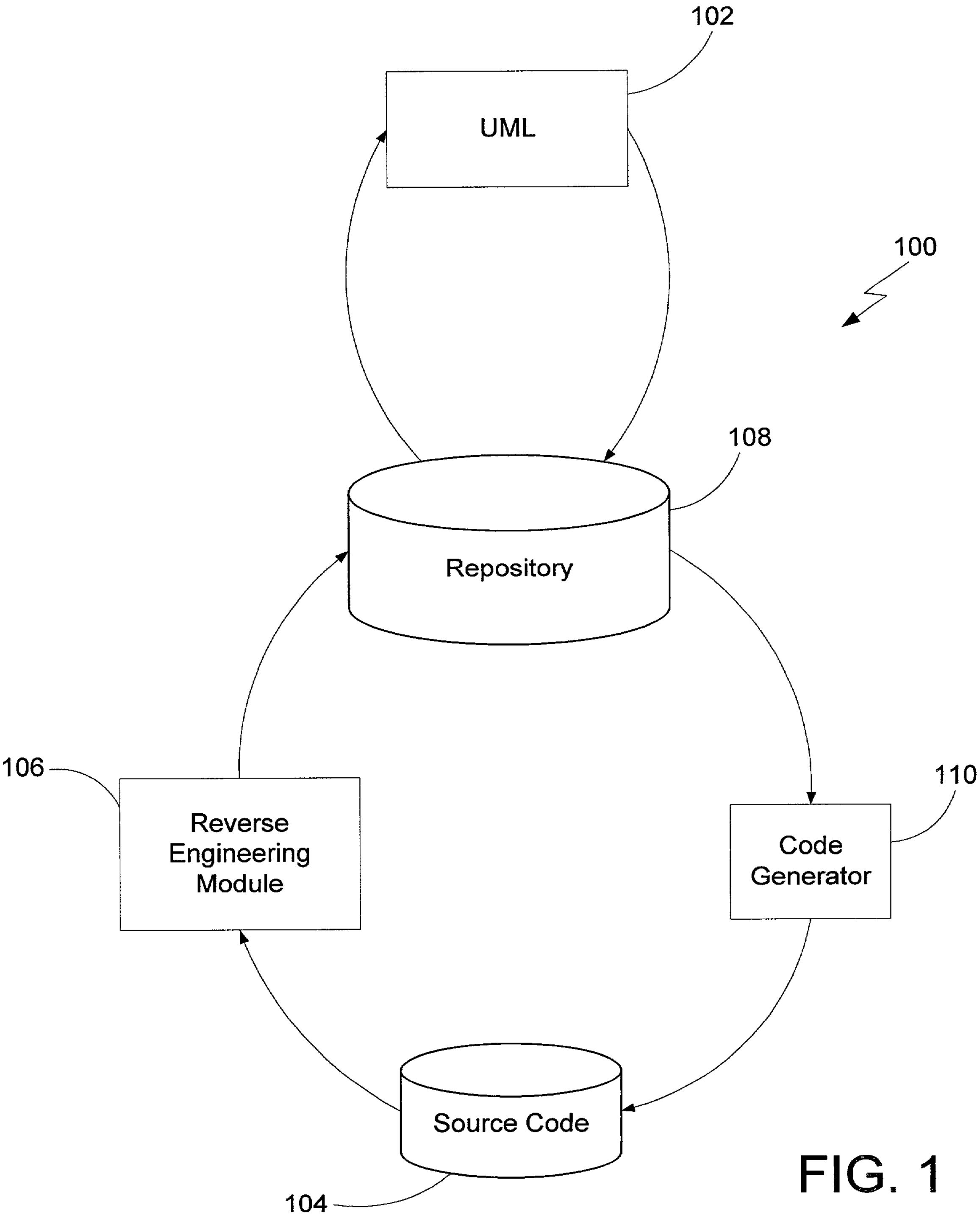


FIG. 1
(Prior Art)

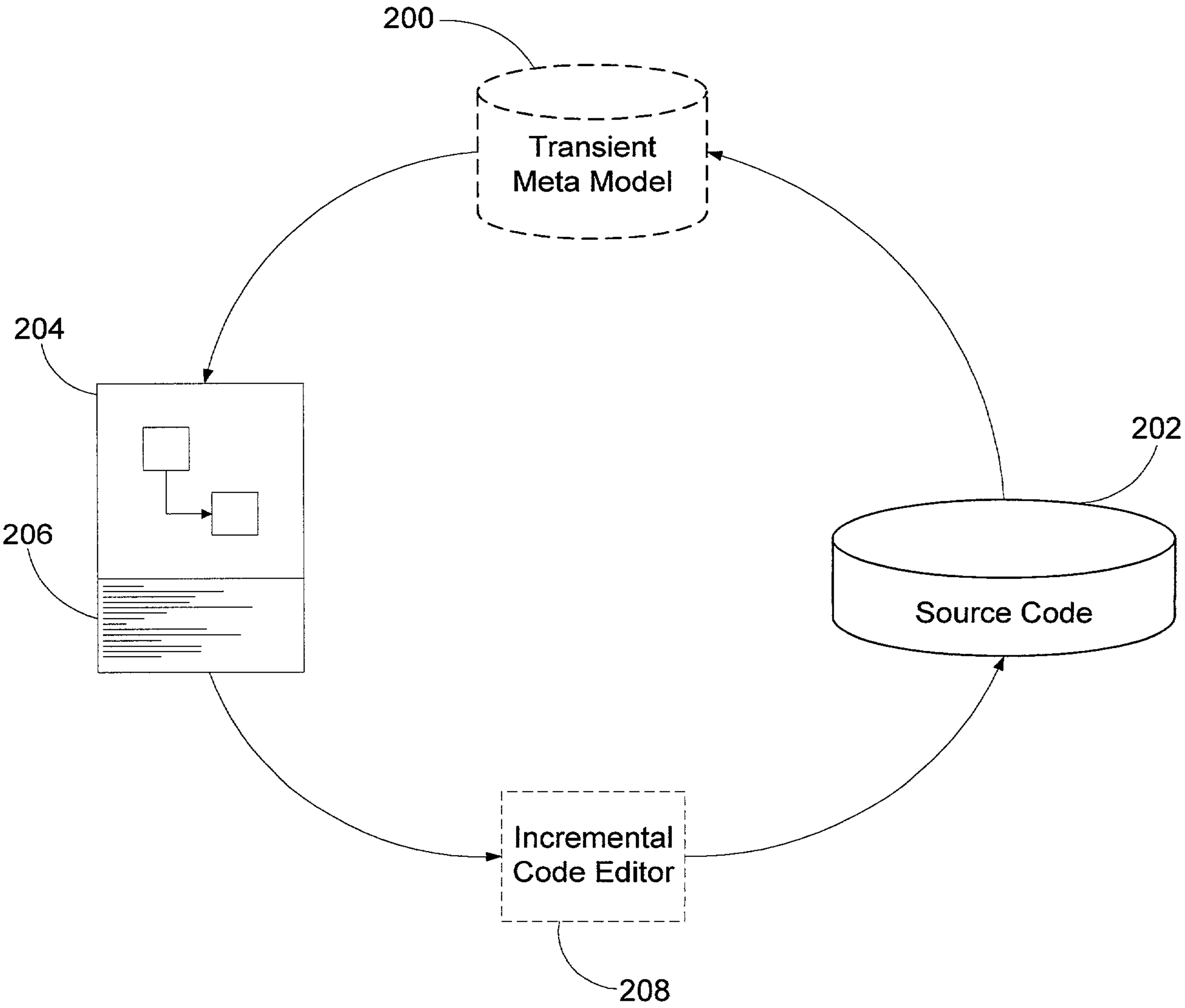

200
Transient
Meta Model
204
202
206
Source Code
Incremental
Code Editor
208

FIG. 2

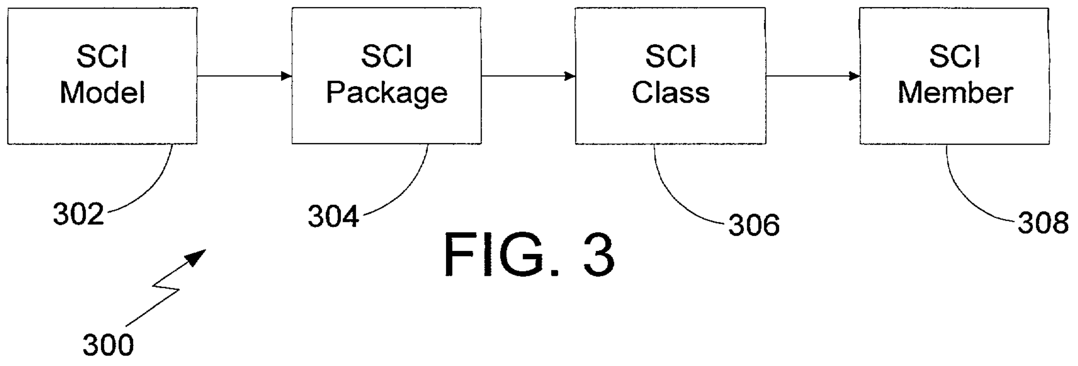
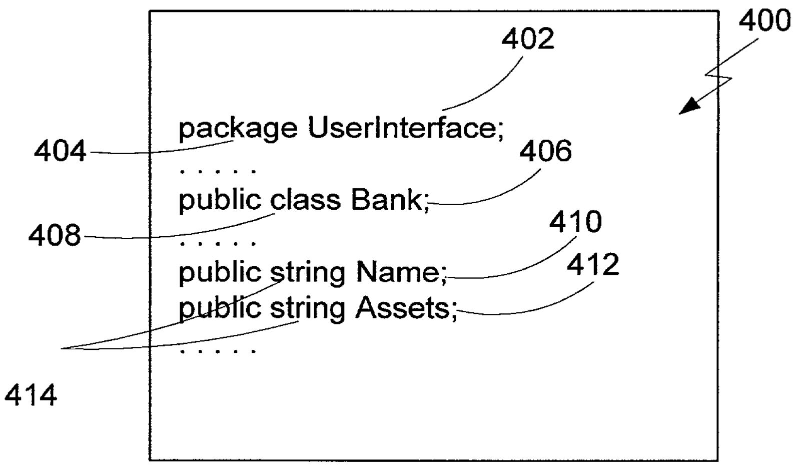


FIG. 3



```
package UserInterface;
. . . . .
public class Bank;
. . . . .
public string Name;
public string Assets;
. . . . .
```

FIG. 4

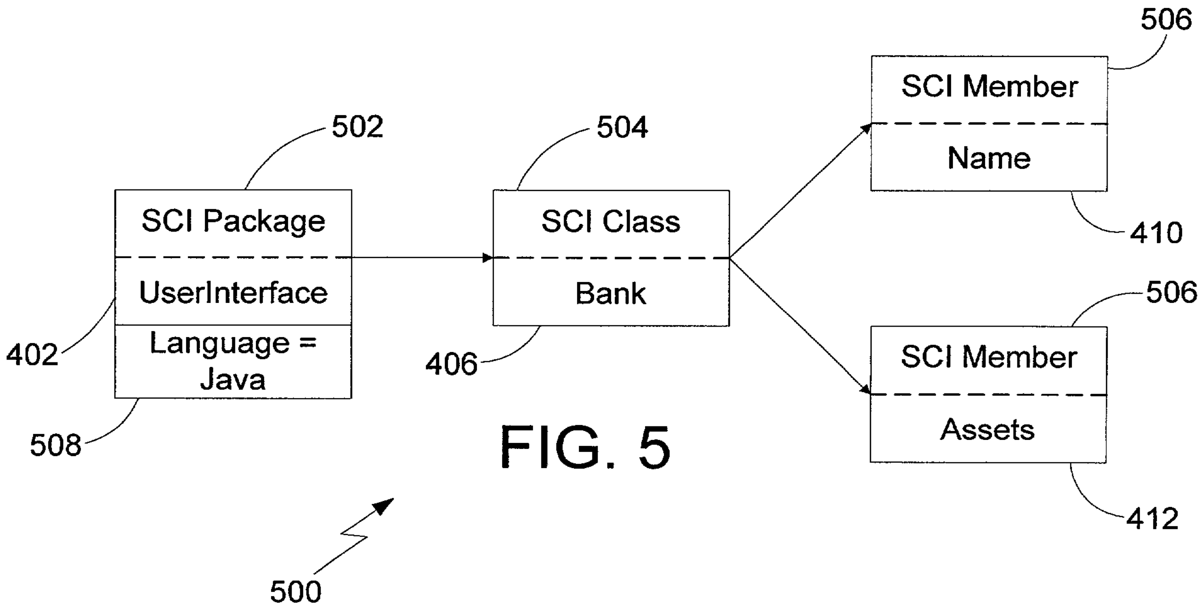


FIG. 5

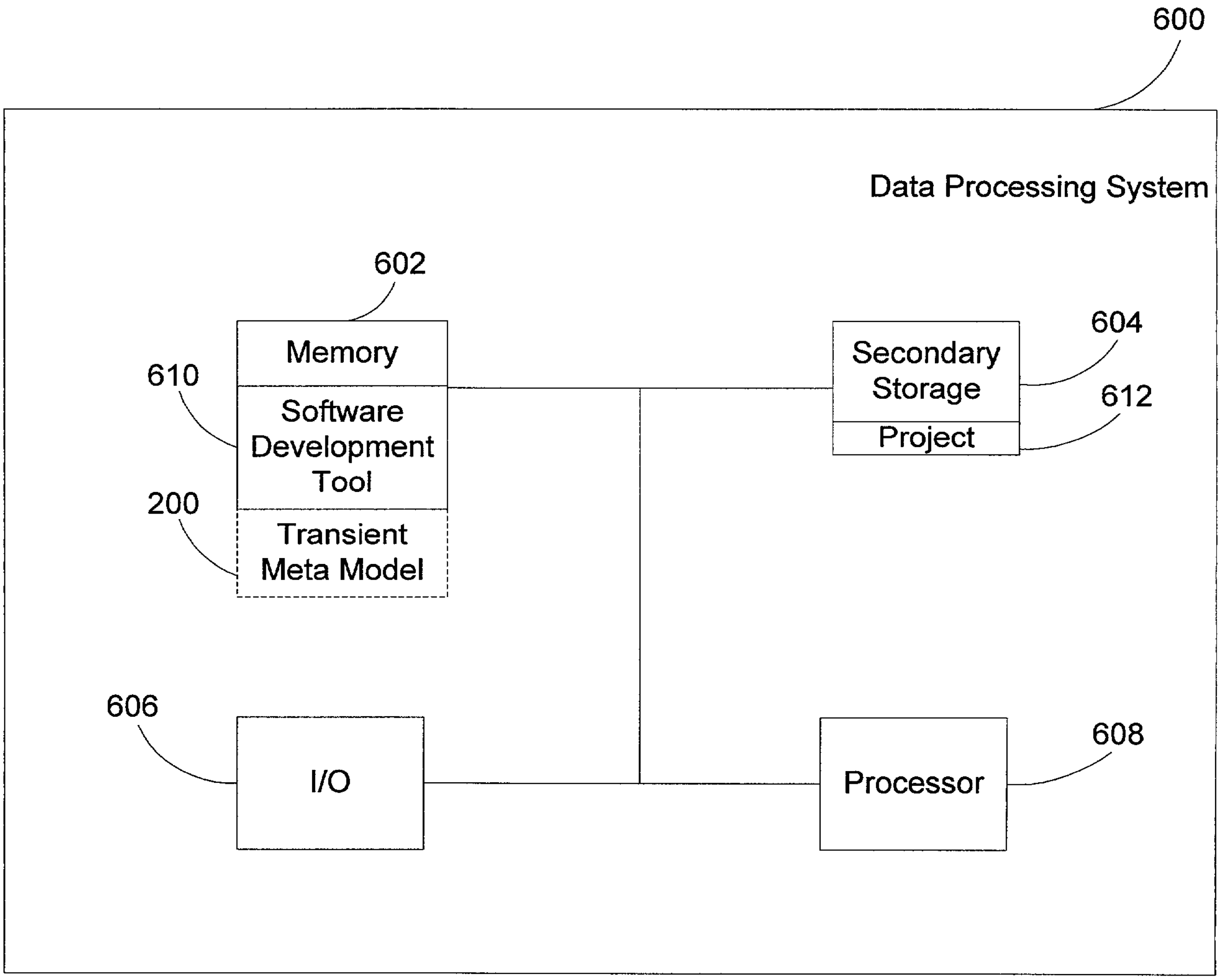

600
Data Processing System
602
Memory
610
Software Development Tool
200
Transient Meta Model
604
Secondary Storage
612
Project
606
I/O
608
Processor

FIG. 6

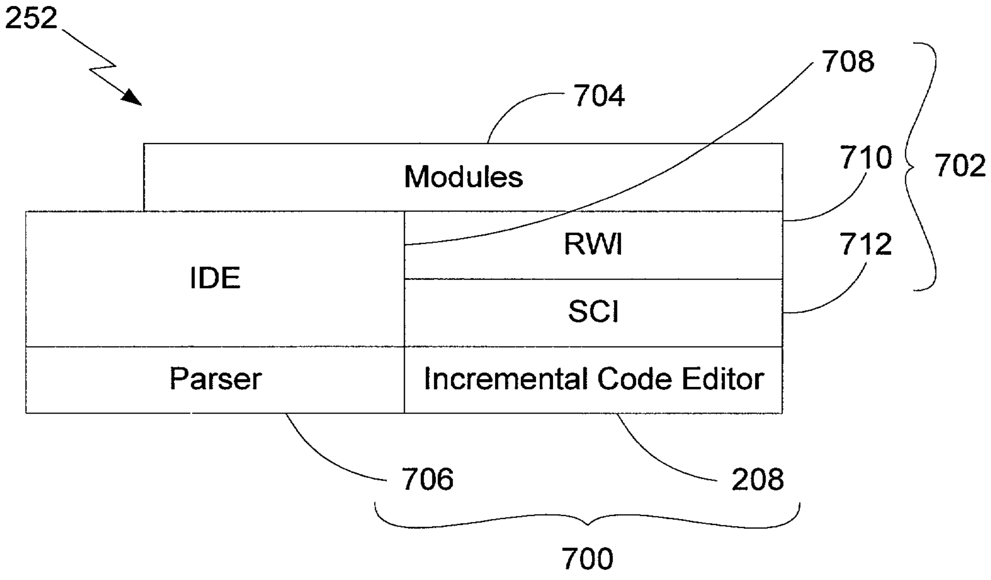
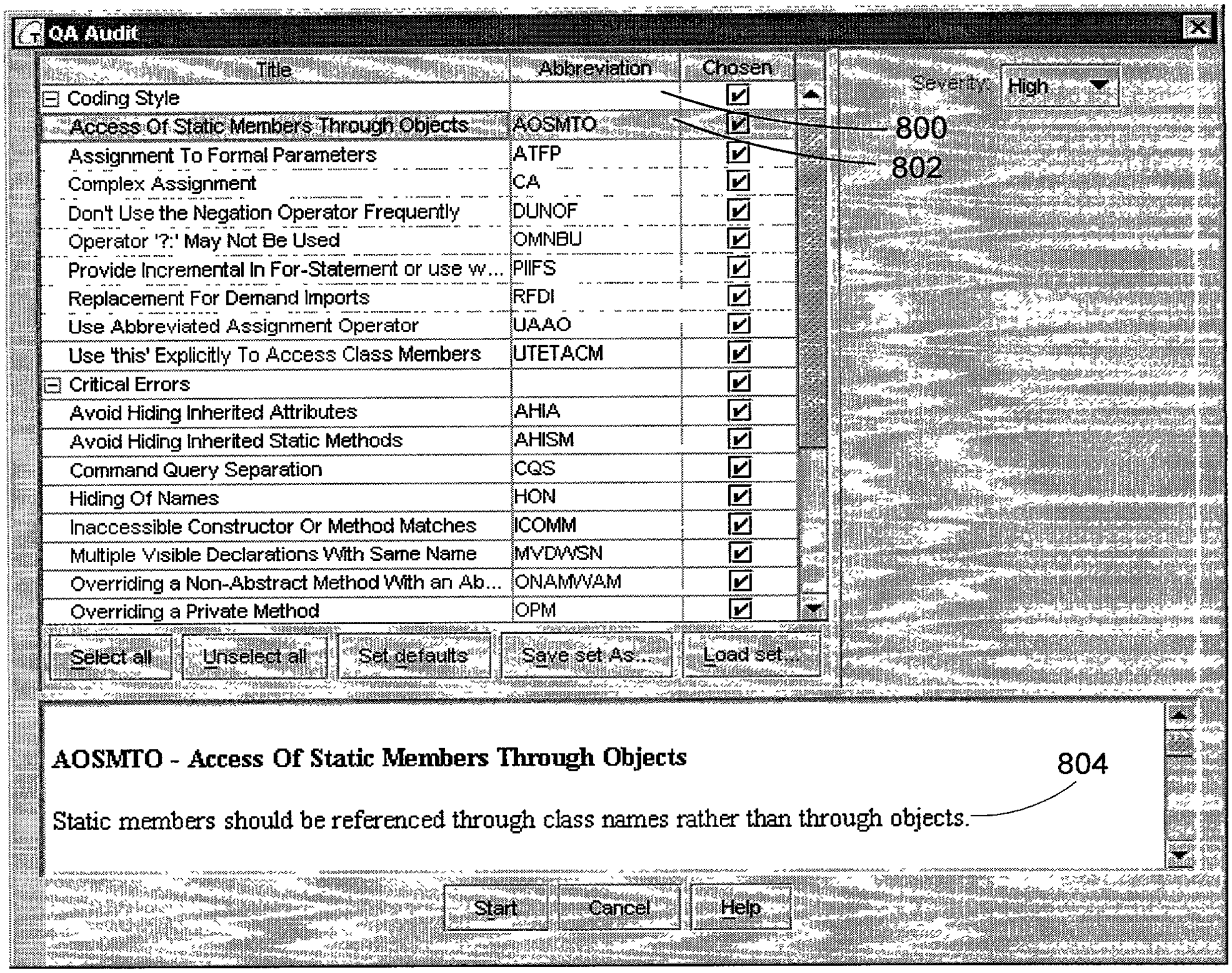

252
708
704
Modules
710
702
RWI
IDE
712
SCI
Parser
Incremental Code Editor
706
208
700

FIG. 7



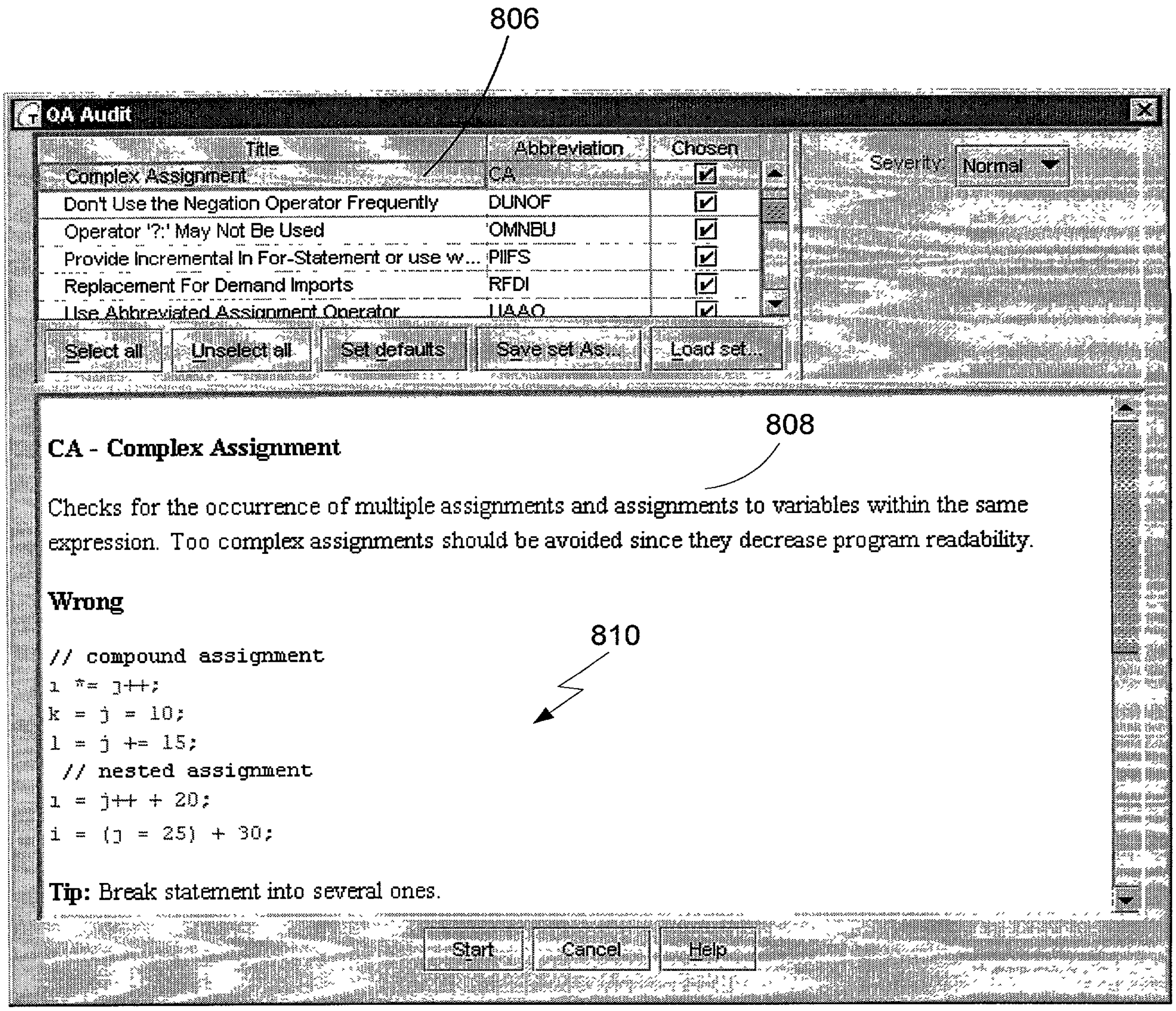
Severity: High

| Title | Abbreviation | Chosen |
|---|---|---|
| ⊟ Coding Style | | ☑ |
| Access Of Static Members Through Objects | AOSMTO | ☑ |
| Assignment To Formal Parameters | ATFP | ☑ |
| Complex Assignment | CA | ☑ |
| Don't Use the Negation Operator Frequently | DUNOF | ☑ |
| Operator '?:' May Not Be Used | OMNBU | ☑ |
| Provide Incremental In For-Statement or use w... | PIIFS | ☑ |
| Replacement For Demand Imports | RFDI | ☑ |
| Use Abbreviated Assignment Operator | UAAO | ☑ |
| Use 'this' Explicitly To Access Class Members | UTETACM | ☑ |
| ⊟ Critical Errors | | ☑ |
| Avoid Hiding Inherited Attributes | AHIA | ☑ |
| Avoid Hiding Inherited Static Methods | AHISM | ☑ |
| Command Query Separation | CQS | ☑ |
| Hiding Of Names | HON | ☑ |
| Inaccessible Constructor Or Method Matches | ICOMM | ☑ |
| Multiple Visible Declarations With Same Name | MVDWSN | ☑ |
| Overriding a Non-Abstract Method With an Ab... | ONAMWAM | ☑ |
| Overriding a Private Method | OPM | ☑ |

**AOSMTO - Access Of Static Members Through Objects**

Static members should be referenced through class names rather than through objects.

FIG. 8A



| Title | Abbreviation | Chosen |
|---|---|---|
| Complex Assignment | CA | ☑ |
| Don't Use the Negation Operator Frequently | DUNOF | ☑ |
| Operator '?:' May Not Be Used | OMNBU | ☑ |
| Provide Incremental In For-Statement or use w... | PIIFS | ☑ |
| Replacement For Demand Imports | RFDI | ☑ |
| Use Abbreviated Assignment Operator | UAAO | ☑ |

**CA - Complex Assignment**

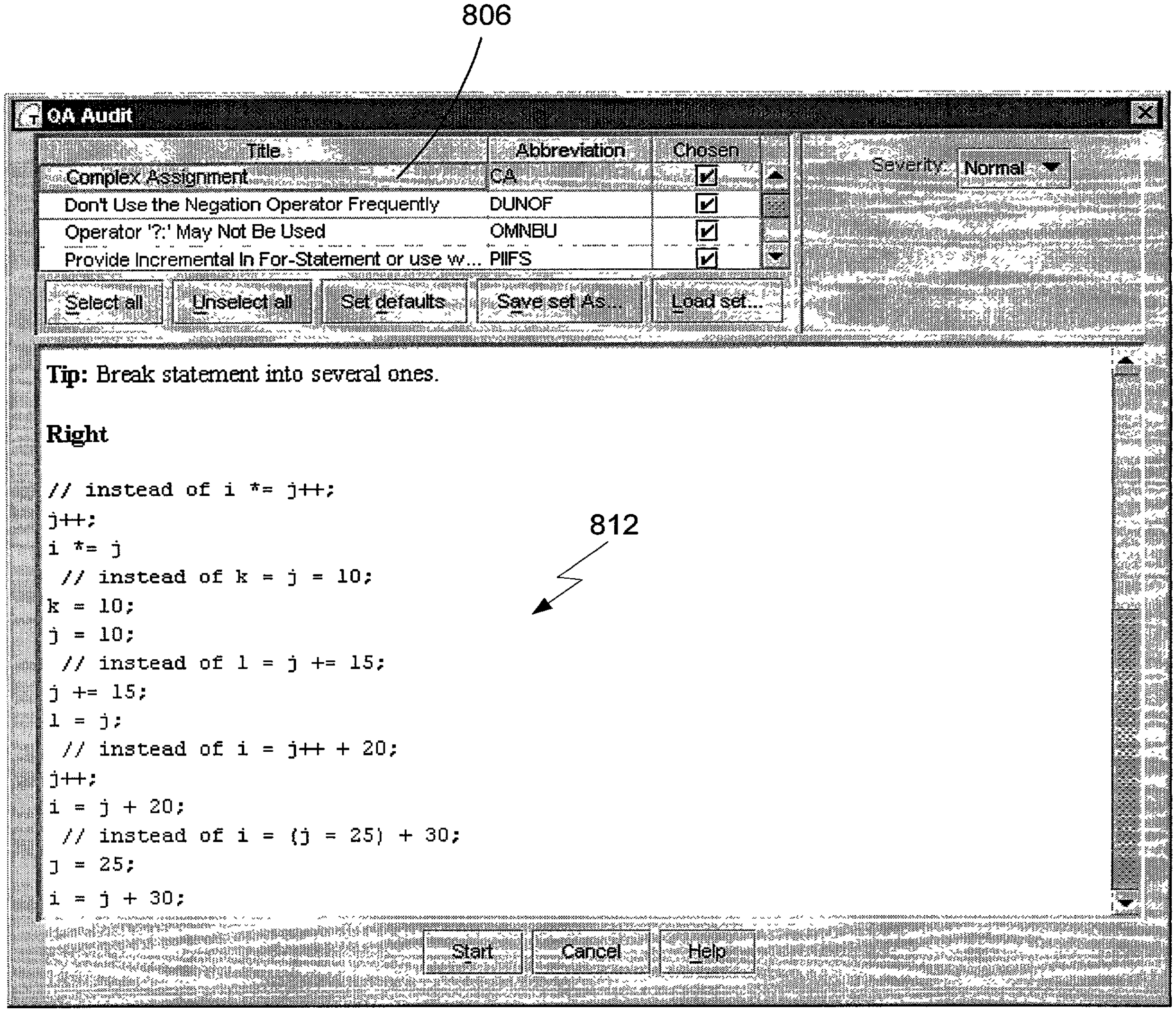
Checks for the occurrence of multiple assignments and assignments to variables within the same expression. Too complex assignments should be avoided since they decrease program readability.

**Wrong**

```
// compound assignment
i *= j++;
k = j = 10;
l = j += 15;
 // nested assignment
i = j++ + 20;
i = (j = 25) + 30;
```

**Tip:** Break statement into several ones.

FIG. 8B



| Title | Abbreviation | Chosen |
|---|---|---|
| Complex Assignment | CA | ☑ |
| Don't Use the Negation Operator Frequently | DUNOF | ☑ |
| Operator '?:' May Not Be Used | OMNBU | ☑ |
| Provide Incremental In For-Statement or use w... | PIIFS | ☑ |

Severity: Normal

**Tip:** Break statement into several ones.

**Right**

```
// instead of i *= j++;
j++;
i *= j
 // instead of k = j = 10;
k = 10;
j = 10;
 // instead of l = j += 15;
j += 15;
l = j;
 // instead of i = j++ + 20;
j++;
i = j + 20;
 // instead of i = (j = 25) + 30;
j = 25;
i = j + 30;
```

FIG. 8C

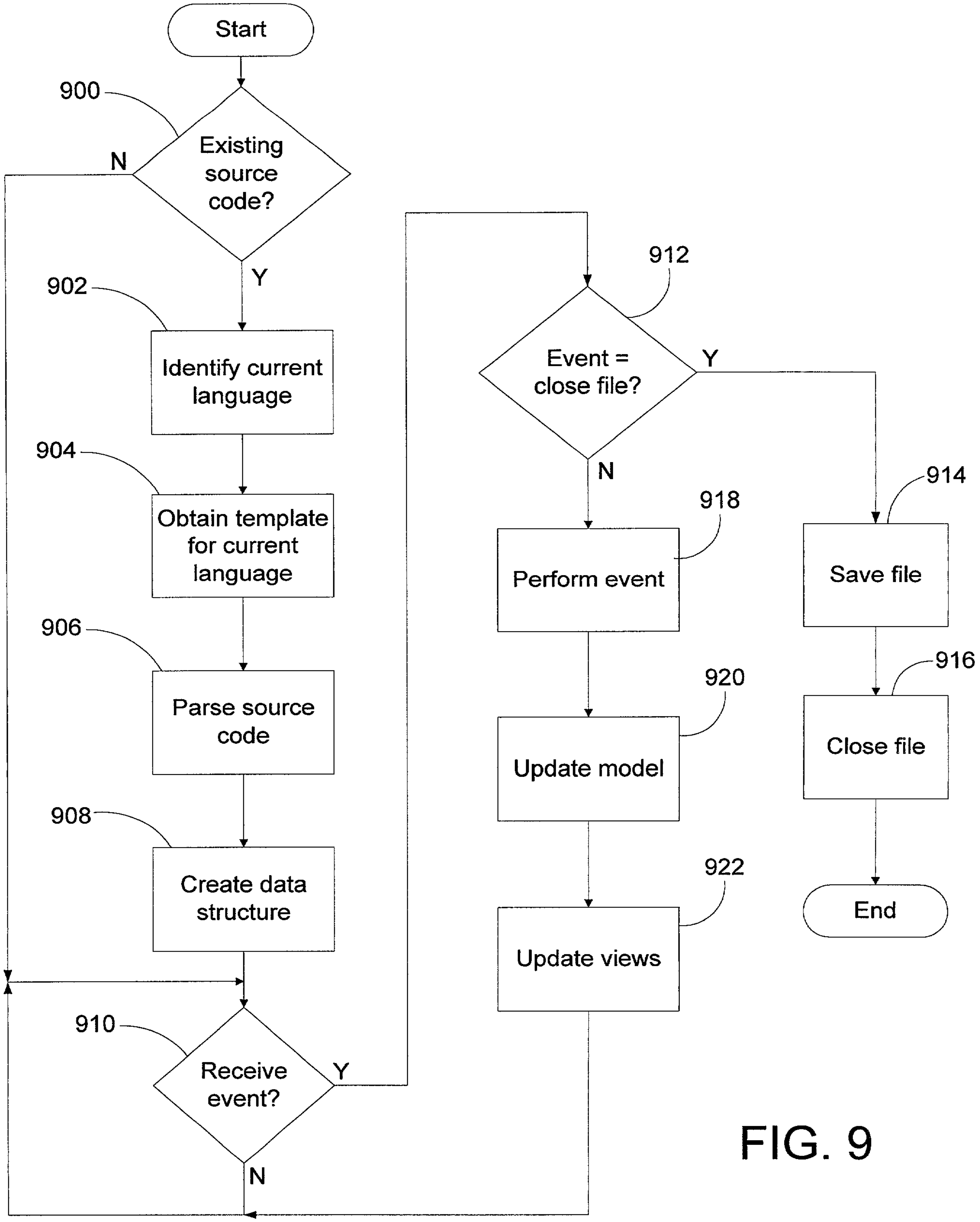

Start
900
Existing source code?
N
Y
902
Identify current language
904
Obtain template for current language
906
Parse source code
908
Create data structure
910
Receive event?
Y
N
912
Event = close file?
Y
N
918
Perform event
920
Update model
922
Update views
914
Save file
916
Close file
End

FIG. 9

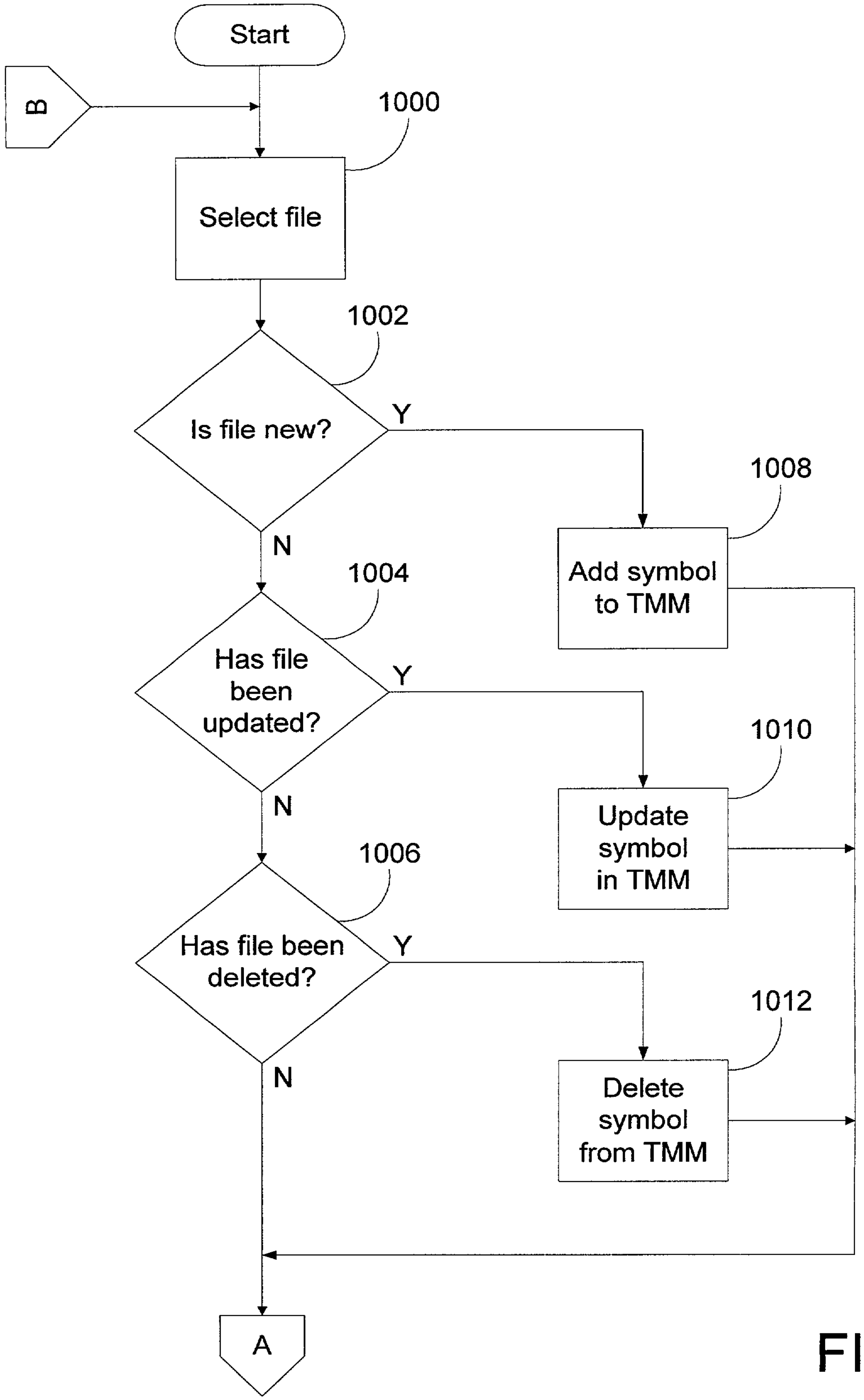

Start
B
1000
Select file
1002
Is file new?
Y
N
1008
Add symbol to TMM
1004
Has file been updated?
Y
N
1010
Update symbol in TMM
1006
Has file been deleted?
Y
N
1012
Delete symbol from TMM
A

FIG. 10A

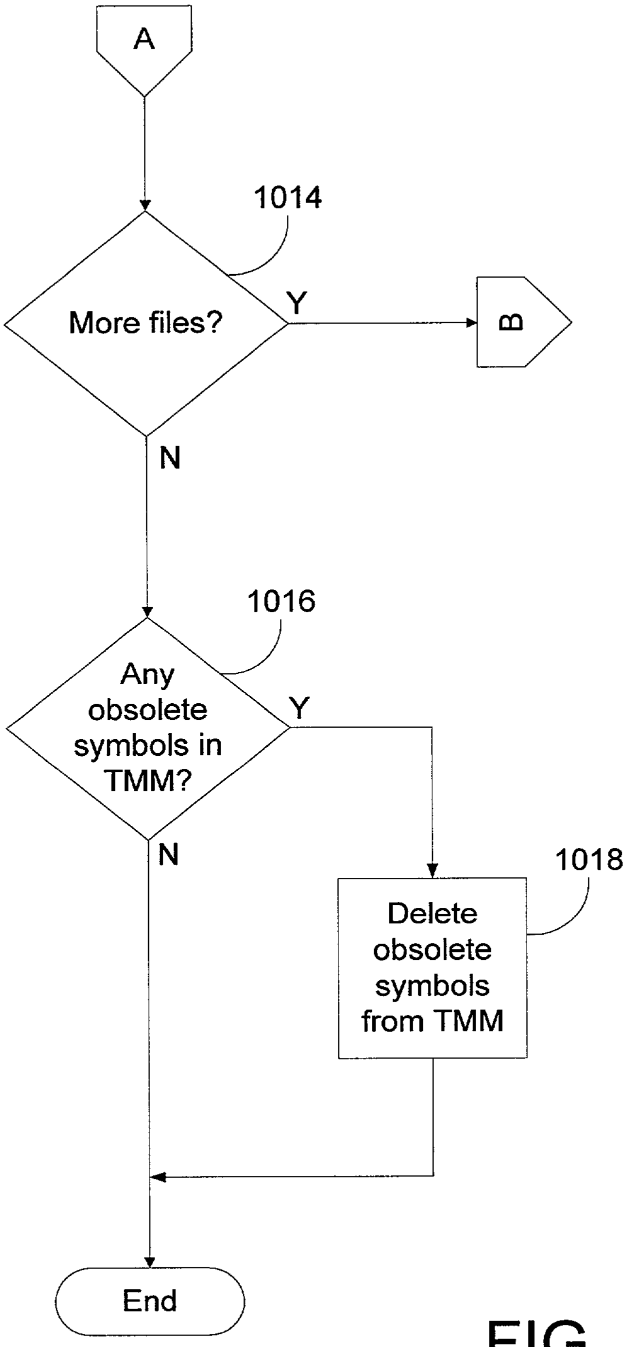

A
1014
More files?
Y
B
N
1016
Any obsolete symbols in TMM?
Y
N
1018
Delete obsolete symbols from TMM
End

FIG. 10B

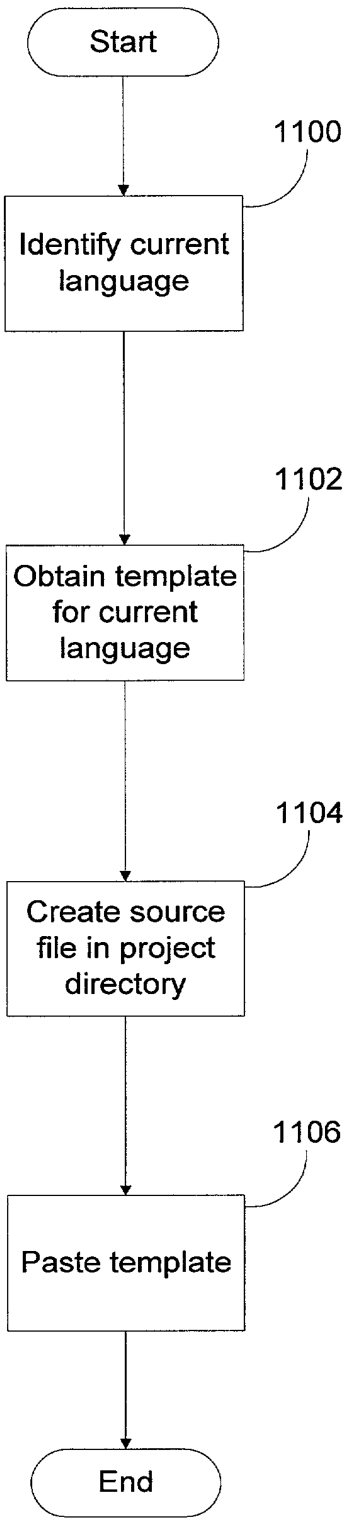

Start
1100
Identify current language
1102
Obtain template for current language
1104
Create source file in project directory
1106
Paste template
End

FIG. 11

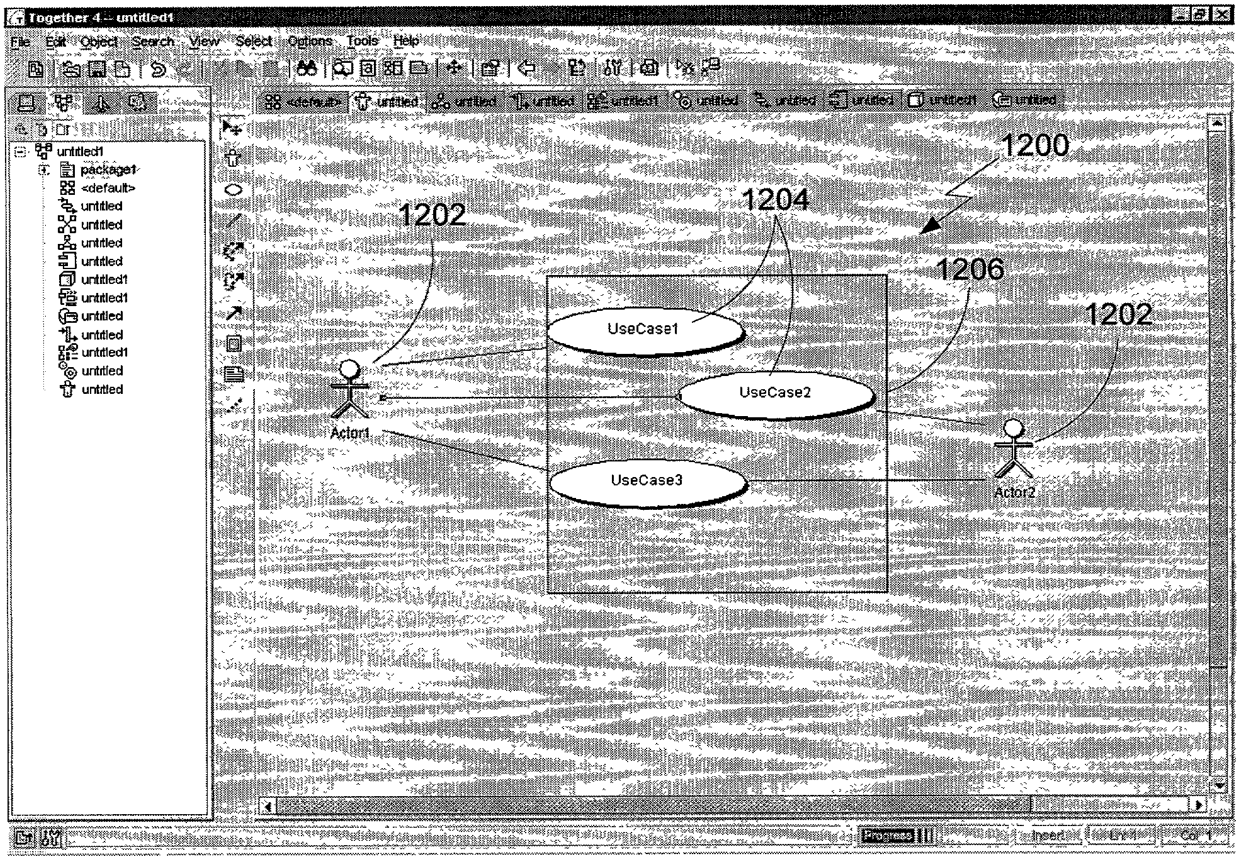
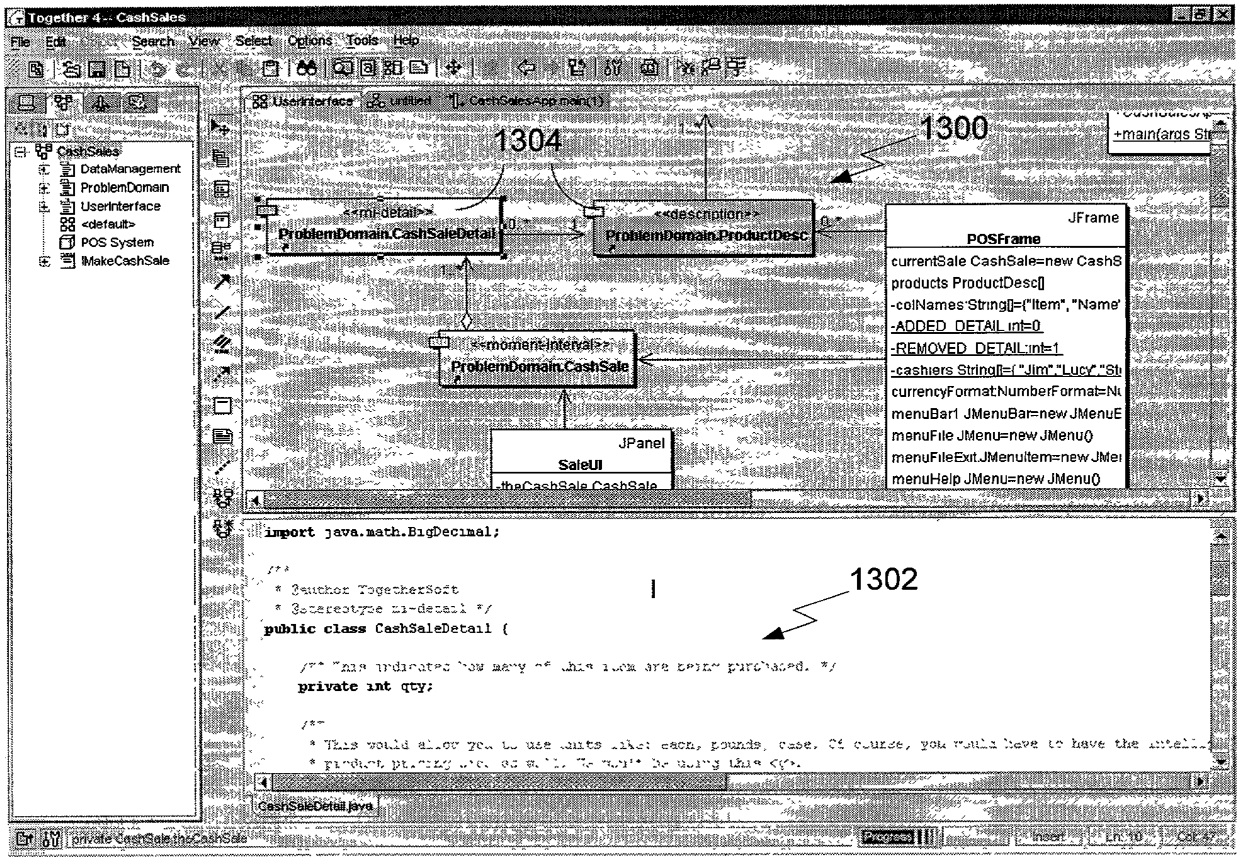

Together 4 -- untitled1
File Edit Object Search View Select Options Tools Help
<default> untitled untitled untitled untitled1 untitled untitled untitled untitled1 untitled
untitled1
package1
<default>
untitled
untitled
untitled
untitled
untitled1
untitled1
untitled
untitled
untitled1
untitled
untitled
1200
1202
1204
1206
1202
UseCase1
UseCase2
UseCase3
Actor1
Actor2
Progress
Insert
Ln 1
Col 1

FIG. 12



```
import java.math.BigDecimal;

/**
 * @author TogetherSoft
 * @stereotype mi-detail */
public class CashSaleDetail {

    /** This indicates how many of this item are being purchased. */
    private int qty;

    /**
     * This would allow you to use units like: each, pounds, case. Of course, you would have to have the intell
     * product pricing etc. as well. We won't be using this qty.
```

FIG. 13

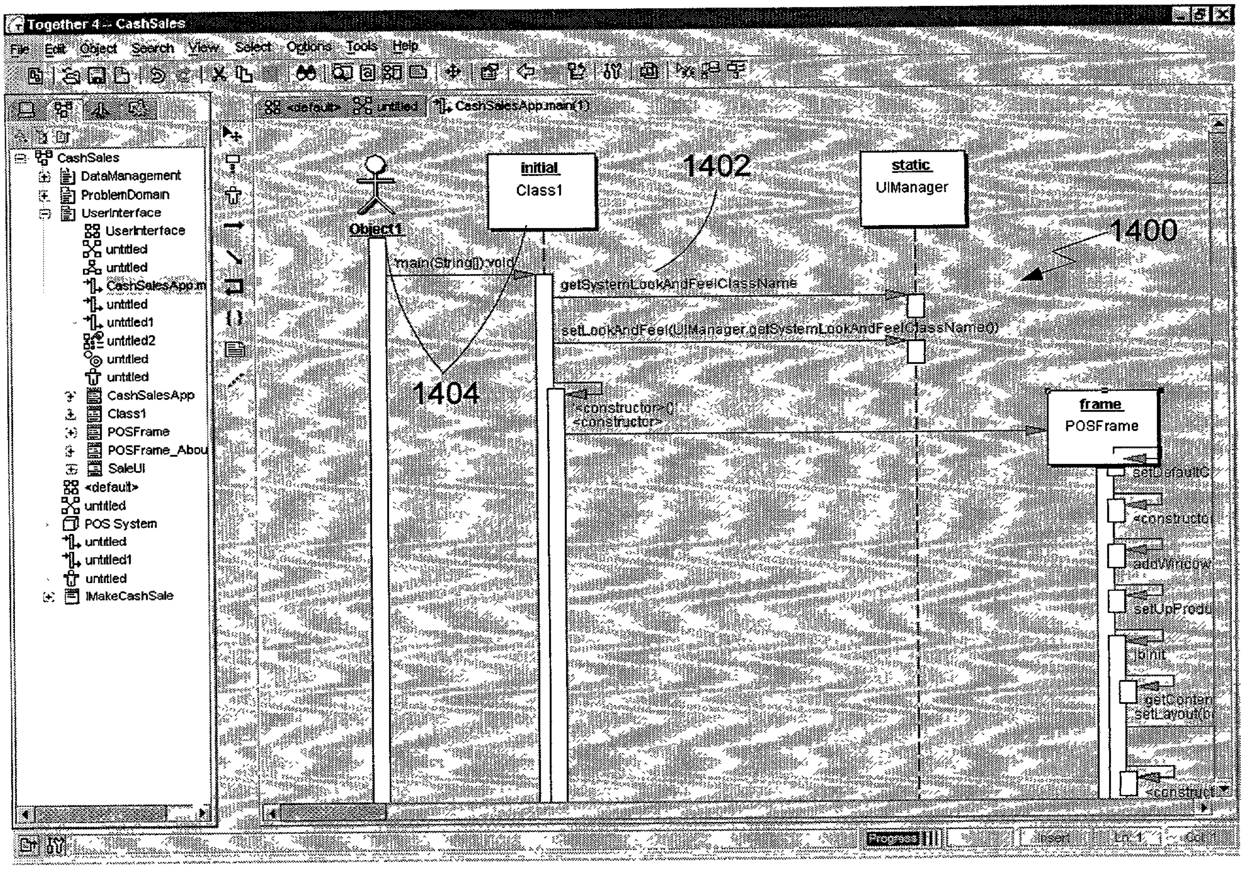
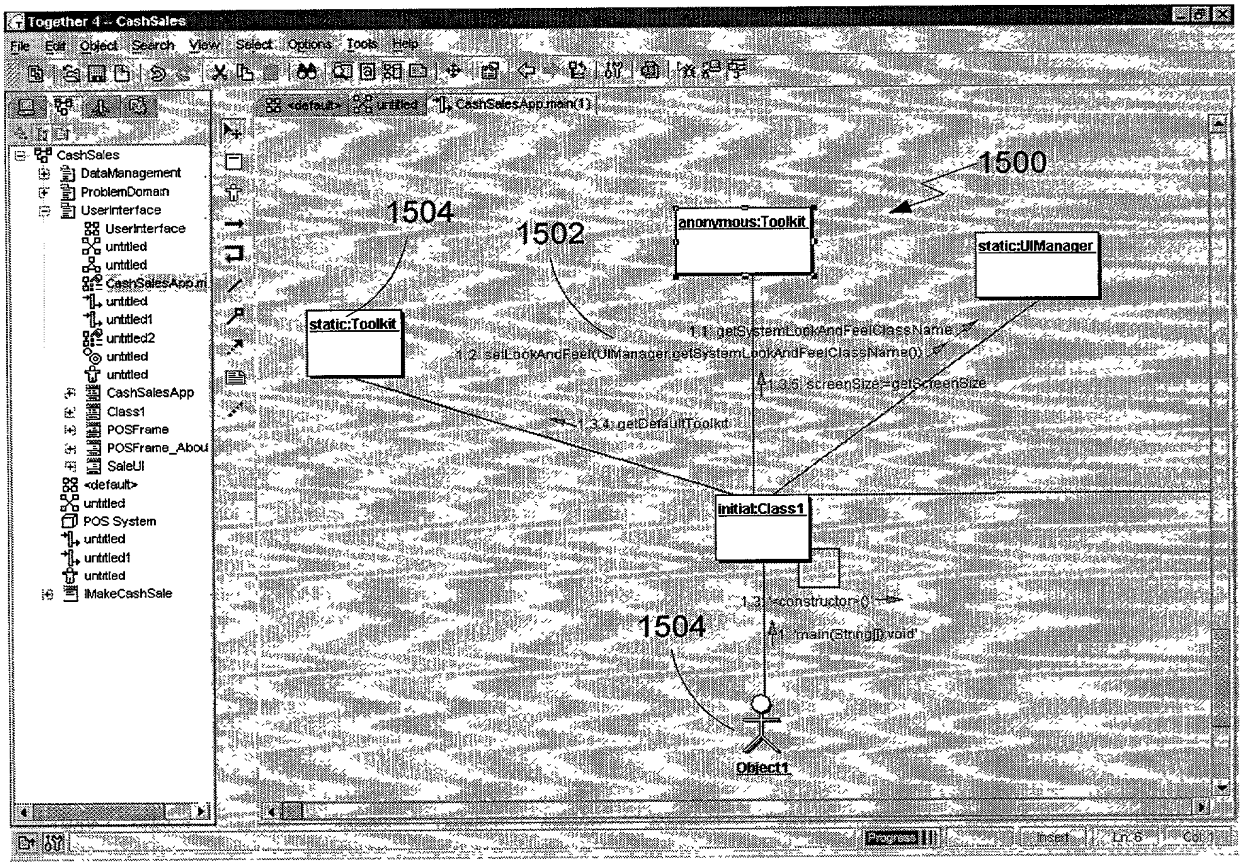

Together 4 -- CashSales
File Edit Object Search View Select Options Tools Help
<default>
untitled
CashSalesApp.main(1)
CashSales
DataManagement
ProblemDomain
UserInterface
UserInterface
untitled
untitled
CashSalesApp.m
untitled
untitled1
untitled2
untitled
untitled
CashSalesApp
Class1
POSFrame
POSFrame_Abou
SaleUI
<default>
untitled
POS System
untitled
untitled1
untitled
IMakeCashSale
Object1
initial
Class1
1402
static
UIManager
1400
main(String[]):void
getSystemLookAndFeelClassName
setLookAndFeel(UIManager.getSystemLookAndFeelClassName())
1404
<constructor>()
<constructor>
frame
POSFrame
setDefaultC
<constructo
addWindow
setUpProdu
jbInit
getConten
setLayout(b
<construct
Progress
Insert
Ln 1
Col

FIG. 14



Together 4 -- CashSales
File
Edit
Object
Search
View
Select
Options
Tools
Help
<default>
untitled
CashSalesApp.main(1)
CashSales
DataManagement
ProblemDomain
UserInterface
UserInterface
untitled
untitled
CashSalesApp.m
untitled
untitled1
untitled2
untitled
untitled
CashSalesApp
Class1
POSFrame
POSFrame_Abou
SaleUI
<default>
untitled
POS System
untitled
untitled1
untitled
IMakeCashSale
1500
1504
1502
anonymous:Toolkit
static:UIManager
static:Toolkit
1.1: getSystemLookAndFeelClassName
1.2: setLookAndFeel(UIManager.getSystemLookAndFeelClassName())
1.3.5: screenSize=getScreenSize
1.3.4: getDefaultToolkit
initial:Class1
1.3: '<constructor>()'
1: 'main(String[]):void'
1504
Object1
Progress
Insert
Ln 6
Col 1

FIG. 15

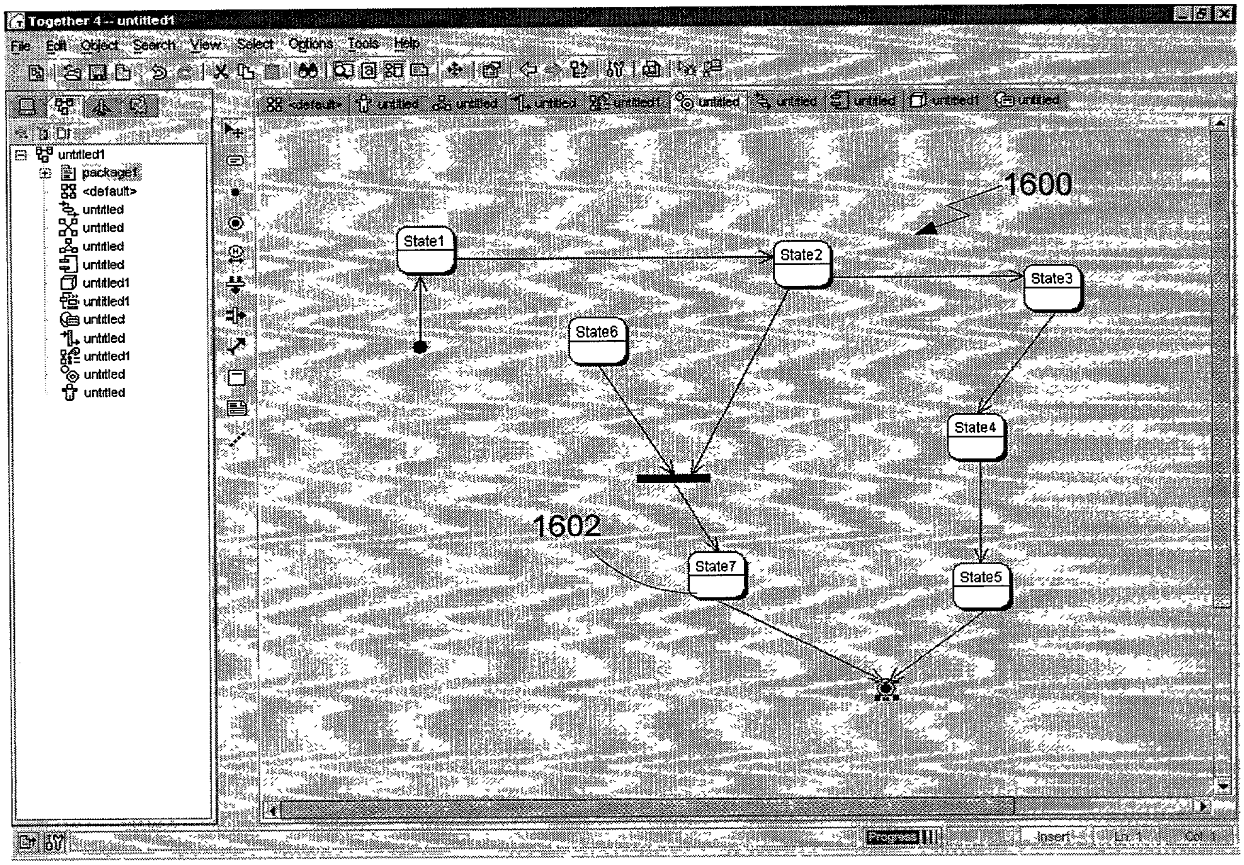

Together 4 -- untitled1
File
Edit
Object
Search
View
Select
Options
Tools
Help
<default>
untitled
untitled
untitled
untitled1
untitled
untitled
untitled
untitled1
untitled
untitled1
package1
<default>
untitled
untitled
untitled
untitled
untitled1
untitled1
untitled
untitled
untitled1
untitled
untitled
1600
State1
State2
State3
State6
State4
1602
State7
State5
Progress
Insert
Ln 1
Col 1

FIG. 16

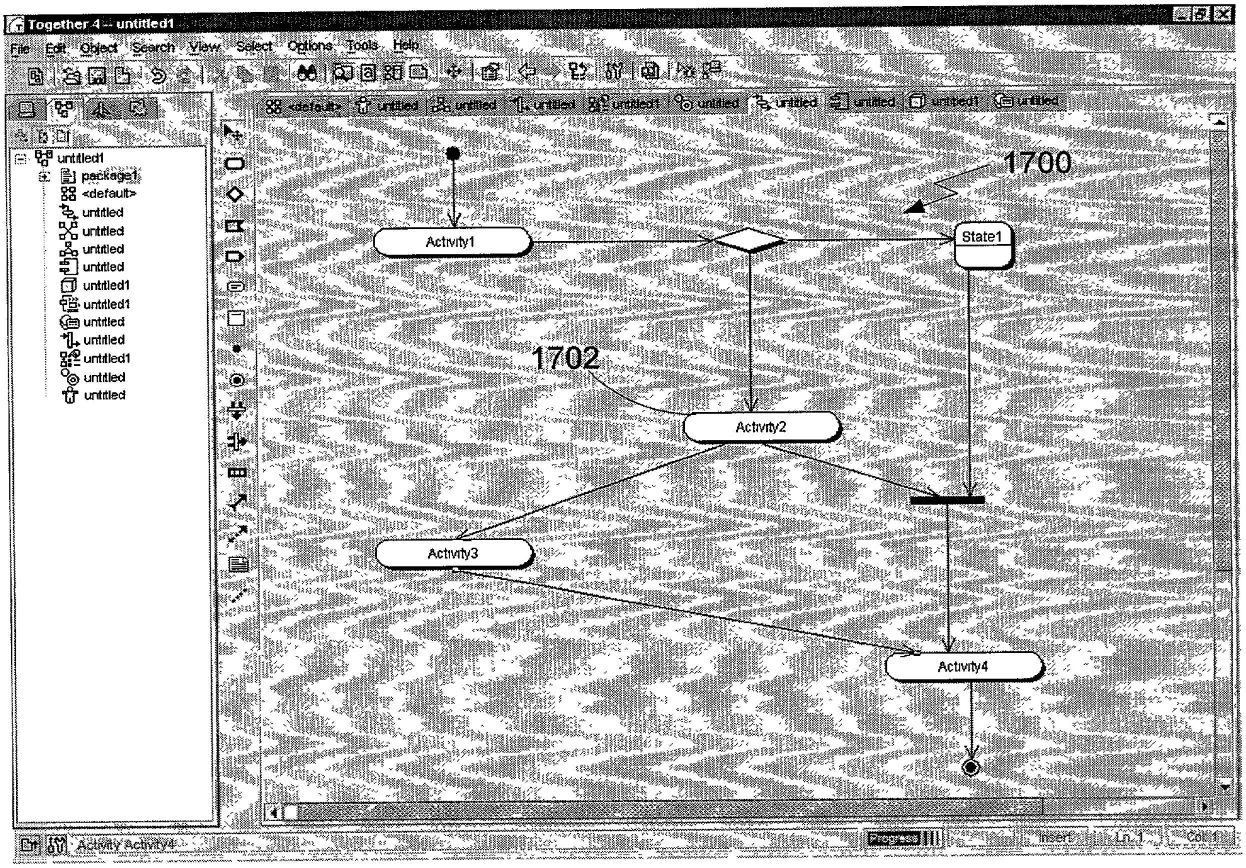

Together 4 -- untitled1
File Edit Object Search View Select Options Tools Help
<default> untitled untitled untitled untitled1 untitled untitled untitled untitled1 untitled
untitled1
package1
<default>
untitled
untitled
untitled
untitled
untitled1
untitled1
untitled
untitled
untitled1
untitled
untitled
1700
Activity1
State1
1702
Activity2
Activity3
Activity4
Activity Activity4
Progress
Insert
Ln 1
Col 1

FIG. 17

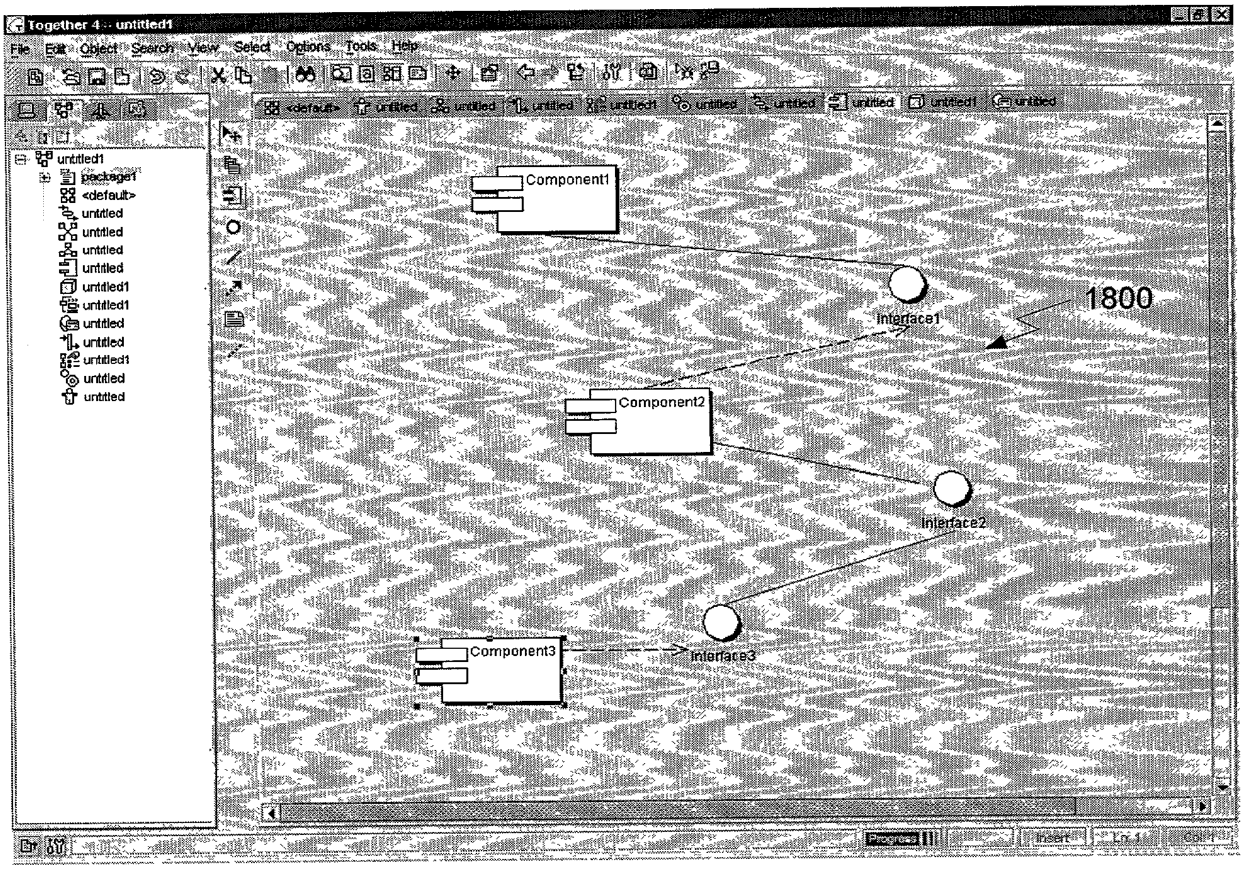

Together 4 - untitled1
File
Edit
Object
Search
View
Select
Options
Tools
Help
<default>
untitled
untitled1
package1
Component1
Interface1
Component2
Interface2
Component3
Interface3
1800
Progress
Insert
Ln 1
Col 1

FIG. 18

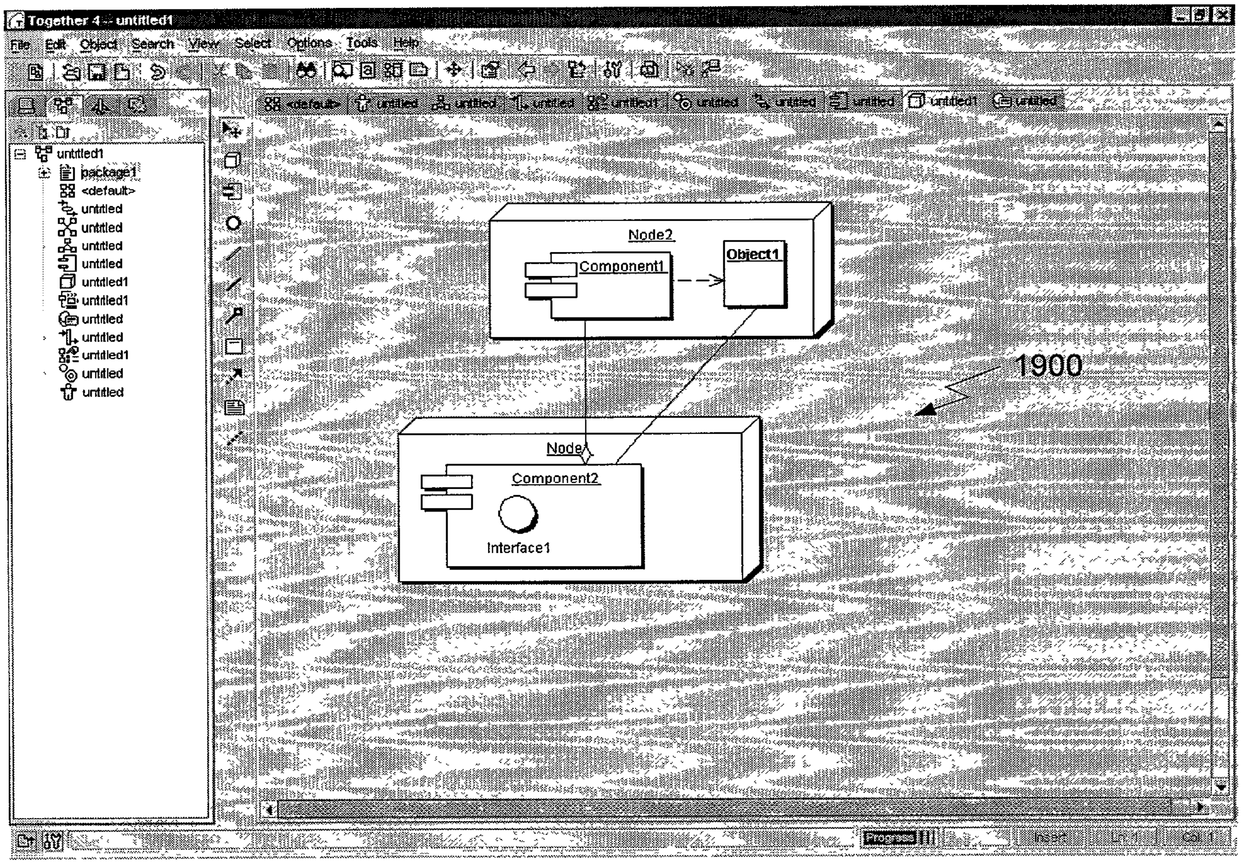
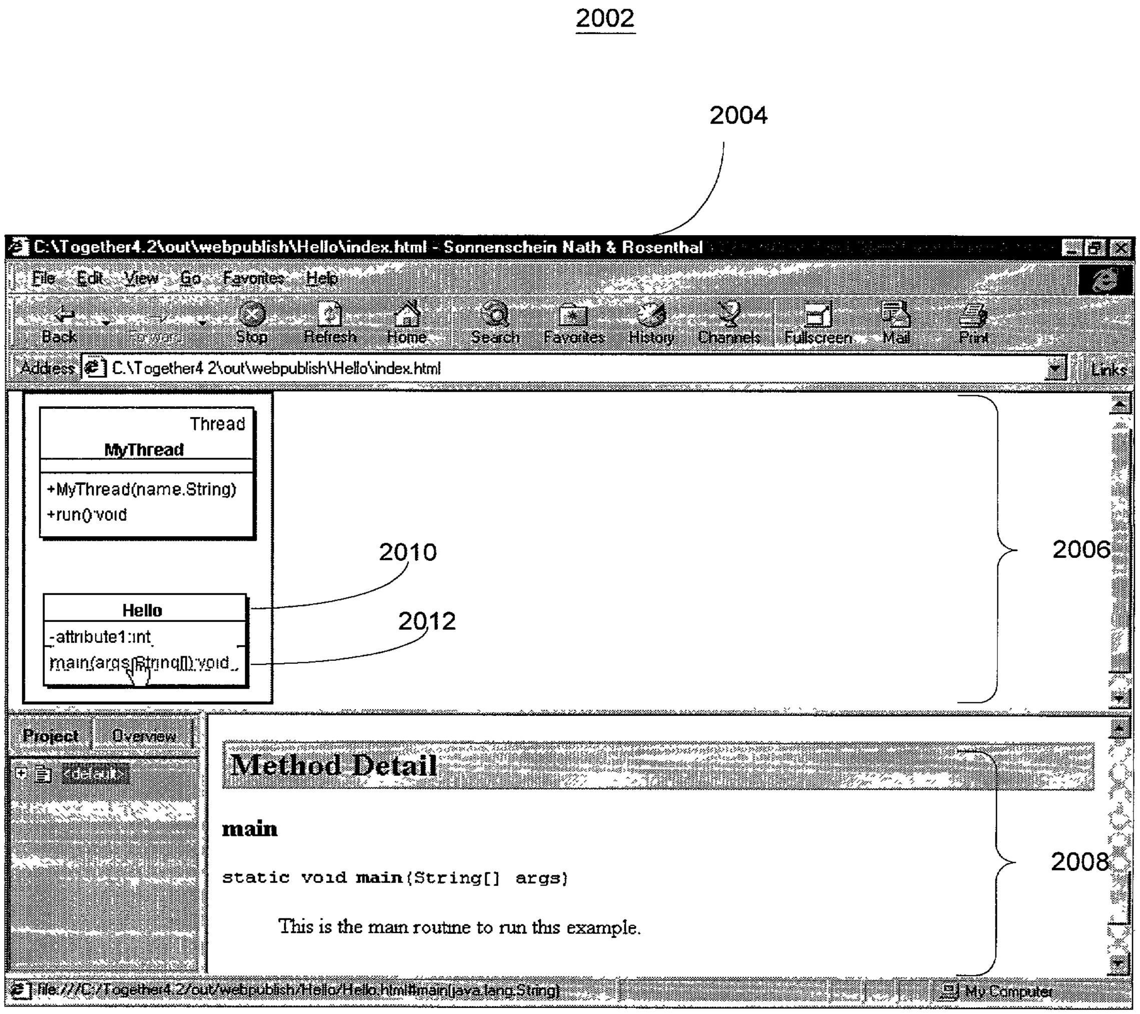

Together 4 -- untitled1
File Edit Object Search View Select Options Tools Help
<default> untitled untitled untitled untitled1 untitled untitled untitled untitled1 untitled
untitled1
package1
<default>
untitled
untitled
untitled
untitled
untitled1
untitled1
untitled
untitled
untitled1
untitled
untitled
Node2
Component1
Object1
Node
Component2
Interface1
1900
Progress
Insert
Ln 1
Col 1

FIG. 19


2002
2004
C:\Together4.2\out\webpublish\Hello\index.html - Sonnenschein Nath & Rosenthal
File Edit View Go Favorites Help
Back Forward Stop Refresh Home Search Favorites History Channels Fullscreen Mail Print
Address C:\Together4 2\out\webpublish\Hello\index.html
Links
Thread
MyThread
+MyThread(name.String)
+run():void
Hello
-attribute1:int
main(args:String[]):void
2010
2012
2006
Project
Overview
<default>
2008
file://C:/Together4.2/out/webpublish/Hello/Hello.html#main(java.lang.String)
My Computer

## Method Detail

### main

```
static void main(String[] args)
```

This is the main routine to run this example.

FIG. 20

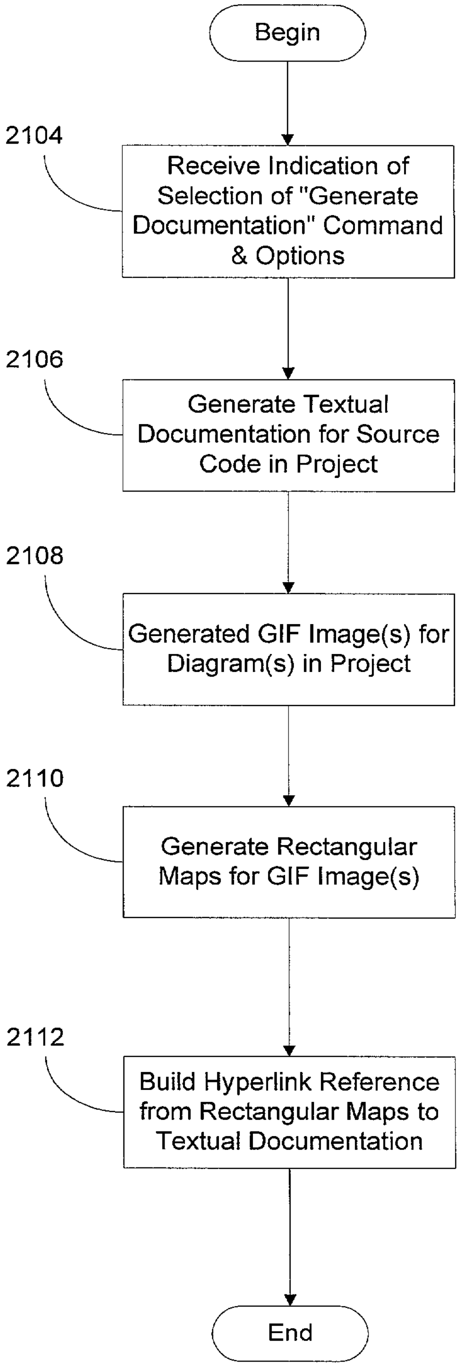
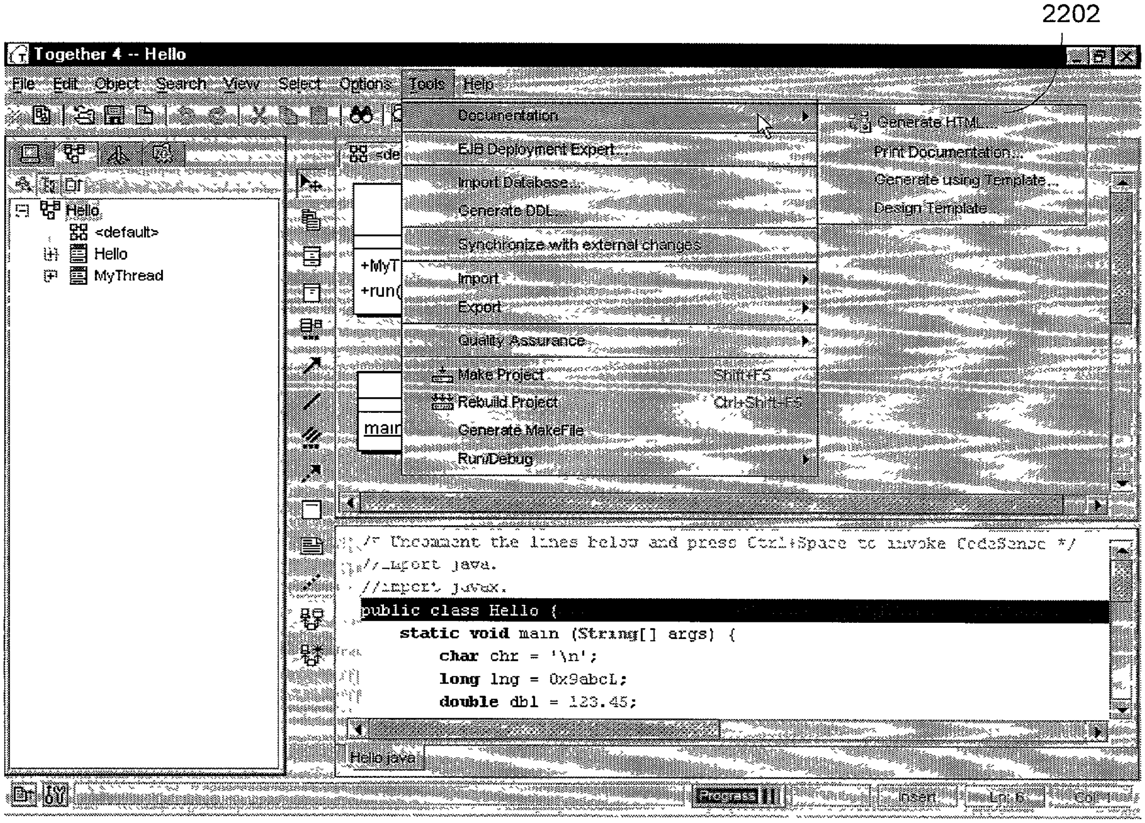

Begin
2104
Receive Indication of Selection of "Generate Documentation" Command & Options
2106
Generate Textual Documentation for Source Code in Project
2108
Generated GIF Image(s) for Diagram(s) in Project
2110
Generate Rectangular Maps for GIF Image(s)
2112
Build Hyperlink Reference from Rectangular Maps to Textual Documentation
End

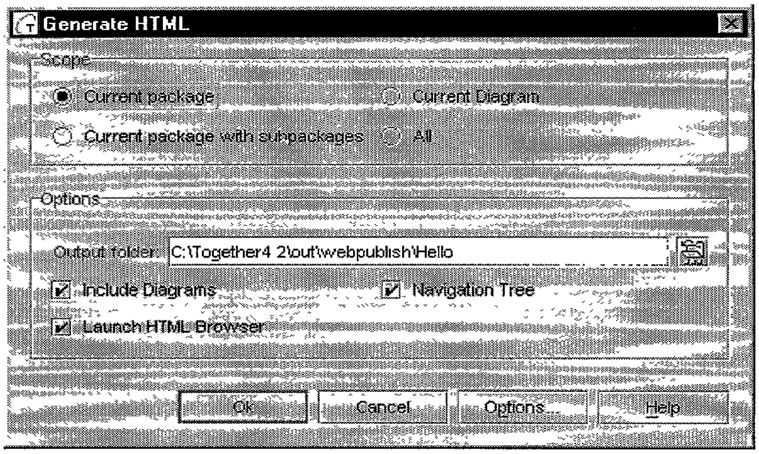
FIG. 21



```
/* Uncomment the lines below and press Ctrl+Space to invoke CodeSense */
//import java.
//import javax.
public class Hello {
    static void main (String[] args) {
        char chr = '\n';
        long lng = 0x9abcL;
        double dbl = 123.45;
```

FIG. 22

2302



Generate HTML

Scope

● Current package ○ Current Diagram

○ Current package with subpackages ○ All

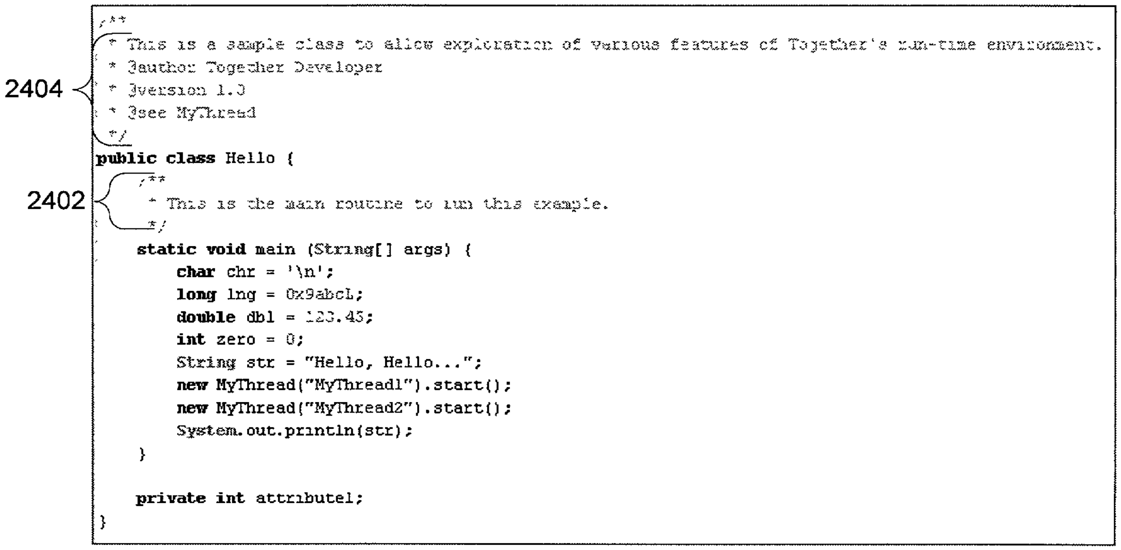
Options

Output folder: C:\Together4 2\out\webpublish\Hello

☑ Include Diagrams ☑ Navigation Tree

☑ Launch HTML Browser

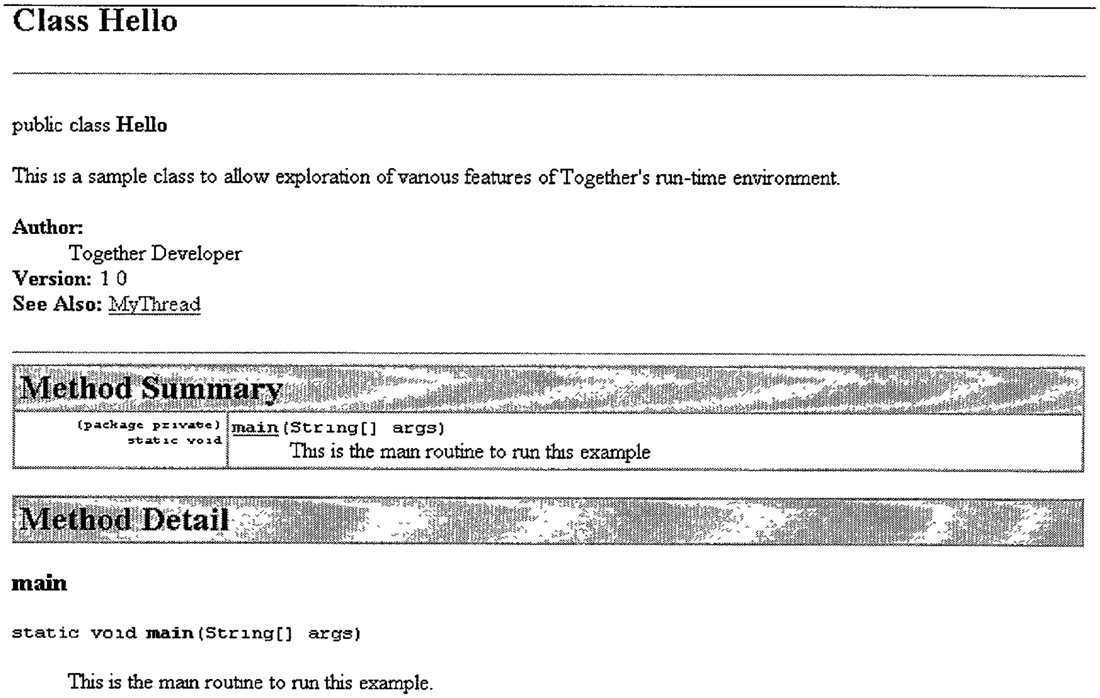
**FIG. 23**



```
/**
 * This is a sample class to allow exploration of various features of Together's run-time environment.
 * @author Together Developer
 * @version 1.0
 * @see MyThread
 */
public class Hello {
    /**
     * This is the main routine to run this example.
     */
    static void main (String[] args) {
        char chr = '\n';
        long lng = 0x9abcL;
        double dbl = 123.45;
        int zero = 0;
        String str = "Hello, Hello...";
        new MyThread("MyThread1").start();
        new MyThread("MyThread2").start();
        System.out.println(str);
    }

    private int attribute1;
}
```

FIG. 24



## Class Hello

public class **Hello**

This is a sample class to allow exploration of various features of Together's run-time environment.

**Author:**
Together Developer
**Version:** 1 0
**See Also:** MyThread

### Method Summary

| | |
|---|---|
| (package private) static void | main(String[] args)<br>This is the main routine to run this example |

### Method Detail

**main**

```
static void main(String[] args)
```

This is the main routine to run this example.

FIG. 25